Agency Operations Plan 2015-17

Agency:

ND Department of Health

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Technology Strategy:

The ND Department of Health (NDDoH) continues to manage its information technology (IT) hardware and software through our information technology coordinators located throughout the department. Our coordinators are assigned to specific sections and divisions within the department and are responsible for coordinating the IT activities for that section. Because the department is located at three primary locations around the city of Bismarck, the NDDoH has designated one of these coordinators as the department lead IT coordinator. This lead position works closely with management and the other coordinators to effectively manage IT at a department level.

The NDDoH continues to rely on the effective use of personal computers (PCs) across the state's high-speed wide area network. The department currently maintains nearly 600 computers and a wide variety of custom software applications and databases. These systems range in complexity from fully functional web-enabled applications, to intricate laboratory and analysis systems, to single function MS Access databases. Support and coordination for these software solutions are managed by the department's IT coordinators as they focus their efforts on department wide solutions. The primary software focus of the department is to continue to move new and existing solutions to the web when possible and integrate these solutions when it makes sense.

The IT strategy of the department depends on the effective communication and coordination of the department's IT coordinators. The goals of this group are to continue to promote departmental system integration where it is affordable and sensible, standardize hardware and software configurations, develop and encourage information sharing across the department and with our external partners and customers, and to provide proactive IT service delivery.

The department continues to provide assistance and leadership to the state's Enterprise Architecture (EA) initiative, including representation on the State Information Technology Advisory Committee (SITAC). The NDDoH has representatives on many of the domain teams within EA, as the state progresses in its efforts at deploying enterprise wide solutions, effectively and efficiently across state government. The department recognizes the need for a cohesive statewide plan of action to develop the infrastructure to include local public health units, hospitals, laboratories, tribal health, military health and the general public. As these shared resources develop, the NDDoH will be able to extend additional services to its partners and customers.

Technology Infrastructure:

Hardware – All PCs are replaced on a four-year replacement schedule. The 621 computers have the following configuration breakdown:

1) Desktops – 367
2) Laptops – 174
3) Tablets – 49
4) Lab PCs – 31

Software – All PCs are running versions of MS Office (Word, Excel, Powerpoint and Access) and have the following operating system breakdown:

1)	Windows 7 -	522	(84.1 %)
2)	Windows XP* -	51	(8.2 %)
3)	Windows Vista -	21	(3.4 %)
4)	Windows 8 -	18	(2.9 %)
5)	Linux -	2	(0.3 %)
6)	Apple -	1	(0.1 %)
7)	Other -	6	(1.0 %)

(*) All XP machines and other older OS are not connected to NDGOV and are primarily used in our lab environment because of documented issues with Windows 7/8 and our version of StarLIMS.

Servers –

The department has a total of twelve (12) servers that we maintain which are all permitted under waivers granted by ITD.

1) ASPEN server – Division of Health Facilities
    - Federally provided server maintained by the Centers for Medicare and Medicaid Services (CMS)
    - Recently replaced, next replacement will be in five years
    - Windows 2008

2) StarLIMS server – Division of Laboratory Services
    - Hosts the StarLIMS Laboratory Information Management system
    - Maintained by DOH
    - Two (2) Windows 2003 servers (one serving as a failover server)

3) NWA LIMS server – Division of Laboratory Services
    - Hosts the NWA Laboratory Information Management system
    - Maintained by DOH
    - Two (2) Windows NT servers (one serving as a failover server)
    - Failover server is currently transitioning to a Windows 2003 server

4) Atlas server – Division of Laboratory Services
    - Hosts the Atlas Chromatography Data system
    - Maintained by DOH
    - Windows 2000 server

5) BTWAN network servers – Emergency Preparedness Section
    - Hosts the Bioterrorism Wide Area Network
    - Network infrastructure maintained by DCN
    - Servers located within ITD, but maintained by DOH
    - Five (5) Windows 2000 servers
    - One (1) Windows 2008 server

Major Applications –

1) Vital Statistics – Division of Vital Records
    - Used to register and certify birth, death, fetal death, marriage, divorce and abortion records. It also allows the public to make requests for certified copies.
    - Combination of three separate applications:
        i. EVERS - Web-based J2EE application for vital event registration used by hospitals, physicians and funeral homes
        ii. Orders – Web-based J2EE ordering application used by the public to request certified copies
        iii. VR Index – Powerbuilder application used to search for records and maintain requested orders.
    - All three systems were developed by ITD.
    - Currently maintained and hosted by ITD.
    - Database – Oracle 11g
    - Minor modifications occur throughout the life of this system, but there are no plans to replace the system at this time.

2) WICNet – Division of Nutrition and Physical Activity
    - WICNet is used to collect data on participants, including demographics, income, anthropometrics, nutrition education, care plan, referral data, and food packages. It also has the ability to schedule appointments, print checks on demand, plot growth charts, capture statewide messages, and produce various reports.
    - The system was developed in VB.NET by CIBER.
    - Currently maintained by Custom Data Processing, Inc.
    - Presently hosted by ITD.
    - Database – SQL
    - This system will be replaced with the Mountain Plains States Consortium (MPSC) system starting in October 2014. (See the details in the large IT project section below)

3) OPOP – Division of Family Health
    - Used to collect pregnancy and birth information for the Optimal Pregnancy Outcome Program.
    - Web-based .Net application developed, maintained and hosted by ITD.
    - Database – SQL
    - There are no plans to replace the system at this time.

4) CSHS – Division of Children's Special Health Services
    - Used to collect information, schedule services and authorize payment for children with special health needs.
    - PowerBuilder client/server application developed by ITD.
    - Currently maintained by ITD.
    - Database - DB2
    - The division is looking into replacing this system but is in the early stages of the review process to determine the best option.

5) NDIIS – Division of Disease Control
    - The North Dakota Immunization Information System is a statewide immunization registry that is used by all local public health units and more than 85% of the private providers in the state. The registry provides easy access and storage of immunization information for all residents of the state; however, it is primarily used for children.
    - This is a web-based application written in JAVA and VB.NET
    - Developed, maintained and hosted by Blue Cross/Blue Shield of North Dakota
    - Database – SQL
    - There are no plans to replace the system at this time.

6) Maven – Division of Disease Control
    - The Disease Management System forms the foundation of public health surveillance in the state. The system allows the department to more efficiently monitor and more rapidly report disease information to the appropriate agencies. The system allows hospital laboratories to automatically submit lab test data directly into the system without the need for manual data entry.
    - Web-based J2EE application
    - Developed and maintained by Consilience, Inc.
    - Hosted by ITD
    - Database – Oracle
    - There are no plans to replace the system at this time.

7) DOHFP – Environmental Health Section
    - The Facility Profiler application is a warehouse database to aggregate facility data from its major program database systems to provide a single source for all Facility information. This allows staff to go to one source for finding facilities tracked within programs and is also used to send facility data to EPA.
    - This is a web application that allows for searching of facilities across the section and allows the facility information to be mapped on a web based interactive GIS mapping tool.
    - Written in Microsoft .NET
    - Developed and maintained by Windsor Solutions, Inc.
    - Hosted by ITD
    - Database – SQL
    - There are no plans to replace the system at this time.

8) ERIS – Environment Health Section
    - The Electronic Reporting Information System is a web based application that allows regulated entities to submit required reporting data electronically in compliance with the EPA Cross Media Electronic Reporting Rule instead of reporting on paper. This is a cross program application that will allow programs to add additional data flows that will enable more regulated entities to submit required reporting data electronically rather than on paper.
    - Written in Microsoft .NET
    - Developed, maintained and hosted by ITD
    - Database – SQL
    - There are no plans to replace the system at this time.

9) ASPEN – Division of Health Facilities
    - The Automated Survey Processing ENvironment is utilized by all facility surveyors. All information collected regarding state and federal survey certification is stored in this system and sent to the Denver regional office and the Baltimore central office for the Centers for Medicare and Medicaid Services (CMS).
    - Written in MS Access
    - Developed and maintained by CMS
    - Hosted within the department on a federally provided server
    - Database – Oracle
    - Federally provided system so the DOH has no control regarding the replacement of the system.

10) NAR – Division of Health Facilities
    - The Nurse Aid Registry is used to track individuals who the department has determined to have successfully completed the requirements established by the department to be designated as a Certified Nurse Aide (CNA), Home Health Aide (HHA), Nurse Aide (NA), or Medication Assistant I or II (MA I or II).
    - Written in J2EE
    - Developed, maintained and hosted by ITD
    - Database – SQL
    - There are no plans to replace the system at this time.

11) Deficiency Statements – Division of Health Facilities
    - The Deficiency Statement System is used to track Long Term Care facilities deficiency statements and make that information available to the general public.
    - Written in J2EE
    - Developed, maintained and hosted by ITD
    - Database – SQL
    - There are no plans to replace the system at this time.

12) HAN – Emergency Preparedness and Response Section
    - The Health Alert Network is statewide, integrated information and communications system primarily used to distribute health alerts, advisories and updates relating to emergency/disaster events and prevention guidelines, through multiple means of communications.
    - Two (2) Windows servers (one serving as a failover server)
    - Developed and maintained by Electronic Communications Network (ECN)
    - Hosted by ITD
    - Database – SQL
    - There are no plans to replace the system at this time.

13) HC Standard – Emergency Preparedness and Response Section
    - HC Standard is used to track patient data, and hospital and LTX bed availability. Data can be entered directly into a web based client application or uploaded through the use of Motorola MC 70 wireless handheld devices. These devices utilize the BTWAN state network to talk to the HC Standard server hosted at ITD.
    - Upgraded to version 3.7 in March 2013
    - Two (2) Windows servers (one serving as a failover server)
    - Application purchased from Global Emergency Resources (GER)
    - Hosted by ITD
    - Database – SQL
    - There are no plans to replace the system at this time.

14) ESAR-VHP – Emergency Preparedness and Response Section
    - This system allows for the on line registration, credentialing, deployment and tracking of health and medical volunteers. Receives regular uploads of information from state medical professional boards to provide up to date licensing information.
    - New redesign completed by NEXUS in June 2014
    - Developed and maintained by NEXUS
    - Hosted by ITD
    - Database – SQL (changed from Oracle in June 2014)
    - There are no plans to replace the system at this time.

15) StarLIMS – Division of Laboratory Services – Microbiology
    - This system serves as the Laboratory Information Management System (LIMS) for the Microbiology Laboratory. The main functions of StarLIMS include specimen management, test resulting and reporting, electronic laboratory reporting, accounts receivable billing and specimen/test records management. Future enhancements include inventory management, generating grant report statistics and mutual assistance functionality.
    - Developed and maintained under a service contract with Abbott Laboratories
    - Hosted by DOH
    - Database – SQL
    - There are no plans to replace the system at this time.

16) NWA LIMS – Division of Laboratory Services – Chemistry/Microbiology
    - This system stores all the information associated with the analysis of samples submitted to the Division of Laboratory Services - Chemistry, along with the environmental samples submitted to the Division of Laboratory Services - Microbiology. Originally implemented in 1987, the system not only provides analysis information to the department, but also to several outside agencies including the EPA, Public Service Commission, Department of Agriculture, Public Water Plants, Tribal facilities, and private citizens.
    - Written in a proprietary language
    - Developed and maintained under a service contract by Northwest Analytics
    - Hosted by DOH
    - Database – Pervasive
    - There are no plans to replace the system at this time.

17) Atlas CDS – Division of Laboratory Services – Chemistry
    - Atlas Chromatography Data System (CDS) by Thermo Scientific was deployed about 1993 (then under the name XChrom). It is currently Atlas version 8.2.3. This application collects and stores the raw data from seven (7) gas chromatographs and two (2) liquid chromatographs on a 7 x 24 basis. The application also is the analytical tool that is used by the chemists of the Division to process, analyze, and interpret the chromatographic results stored by the CDS. Those results are used by the same range of clients as outlined in the NWA LIMS section.
    - The program is written in a proprietary language
    - Developed and maintained under a service contract by Thermo-Fisher
    - Hosted by DOH
    - Database – Proprietary data storage architecture
    - There are no plans to replace this system at this time.

18) IMS – Division of Food and Lodging
    - The Information Management System (IMS) is used to track licenses and inspections for restaurants, bars, lodging facilities, mobile home parks, campgrounds, bed and breakfast facilities, retail food stores, meat markets, bakeries, assisted-living facilities, tattoo and body art facilities, tanning facilities and electrologists.
    - The program is written in MS Access
    - Developed and maintained by the DOH
    - Hosted by DOH
    - Database is MS Access
    - There is currently an RFP in progress to replace this system in the current biennium

Large IT Projects

1) The Division of Nutrition and Physical Activity is replacing their existing WICNet system with the Mountain Plains States Consortium (MPSC) system starting in October 2014. The project is expected to run through March 2016 at an estimated cost of $409,100. The MPSC WIC system is a web-based, smart client application that supports the Women, Infants, and Children (WIC) Program currently in the states of Colorado, Utah, and Wyoming. The MPSC system utilizes smart client architecture to couple the features of intelligent network usage with a high quality user interface, constructed via Windows forms. The smart client architecture, which is constructed on Microsoft's .NET Framework, improves the user experience and data presentation while still maintaining all of the benefits of a web-based application. This proven system has the capability to deliver WIC food benefits via standard paper food instruments (FIs) or by Electronic Benefit Transfer (EBT) technology. The EBT technology was a mandatory requirement by the US Department of Agriculture and must be implemented by 2020. By choosing to move to this new system, the WIC program will be taking advantage of the consortium of states that are currently using this system, thus saving time and effort as system upgrades are needed in the future. The cost savings switching to this new system were also considerable over upgrading the existing WICNet application. MPSC, like WICNet will be hosted by the North Dakota Information Technology Department (ITD). The North Dakota WIC program has a service level agreement that summarizes the responsibilities of ITD including the expectation that they work closely with the WIC maintenance and operations contractor.

Planned changes / updates to technology:

- Final migration from Windows XP/Vista to Windows 7 and 8.
- Continue the migration from Office 2007/2010 to the newer Microsoft Office 2013.

Technologies being considered or investigated:

- Expanded use of mobile devices:
    - iPads
    - Microsoft Surface Tablets
    - Smartphones